

REMARKS

The allowance of Claims 40, 41, 44 and 45 is noted with appreciation.

The objections to the Specification and Claim 43 have been addressed above.

New dependent Claim 46 is submitted for consideration.

Reconsideration of the rejection of Claims 1,2, 15-27, 28/17, 29-39, 42 and 43, which rejection is traversed, as being anticipated by Bump et al. under 35 U.S.C. § 102(b) is requested.

In referring to col. 6, lines 13-18 of the Bump et al. patent, the Office Action is referring to the prior art MFC, whereas the reference to Col. 8, lines 17-18 is to the device of Fig. 5, i.e., an MFC different from the prior art MFC of Fig. 1. The reference to col. 14, lines 34-41 is a general reference to the system 300 eliminating signal errors resulting from noise as a result of the digital nature of the system, not the presence of noise reduction circuitry. The Office Action asserts "inherency" but the burden is on the PTO to establish some factual predicate for that assertion. No such factual basis is provided.

To the extent that the Examiner relies upon the MFC shown in Fig. 1 of the Bump et al. patent, col. 6, lines 29 et seq. makes clear that the sensor output is provided to a gain and linearization module in which the analog output signal from the sensor is amplified, linearized and then supplied to a junction point. Prior art linearization being a complicated calculation also required a complicated circuit.

Unlike the circuits disclosed in the Bump et al. patent, however, the present invention eliminates complex linearization circuitry by using simple adjustment calculation formulas for respective divided ranges of the input digital signal level. That is, the output signal from the sensor is not linearized but is converted to a digital signal, and the digital signal is adjusted with the adjustment calculation formula. The Bump et al. patent certainly does not teach or even suggest that a signal level of the digital signal inputted into the adjusting circuit is to be divided into two or more ranges.

In the present invention, a noise reduction circuit is used for reducing external noise induced in a power supply line supplying electric power to the gas flow meter. The cited reference Bump et al. teaches, in col. 14, lines 34-41, that the digital system eliminates signal errors resulting from noise and other effects. However, the Bump et al. patent does not teach the use of a noise reduction circuit which is used for reducing external noise induced in a power supply line supplying electric power to the gas flow meter. Bump et al. correct the signal error by digital signal processing.

With regard to Claim 15, the Bump et al. patent does not teach or suggest that a signal level of the digital signal inputted into the adjusting circuit should be divided in two or more ranges as seen in Figs. 11 and 12, an individual adjustment calculation formula being set for the digital signal at each of the divided ranges, and the adjusting circuit selecting the adjustment calculation formula corresponding to

the range of the inputted digital signal level and performing an adjustment calculation by applying the selected formula to the inputted digital signal to produce an adjusted output value as an output of the gas flow meter.

Similarly, with regard to Claim 38, the Bump et al. patent does not even suggest a data input/output circuit having two external communication terminals, instead merely teaching a general digital communication system 300 in Fig. 5 with reference to the number of terminals.

For similar reasons, reconsideration of the rejection of Claims 3-14 and 28/13 as being unpatentable over Bump et al. in view of International Standard and JP '361 under 35 U.S.C. § 103(a), which rejection is traversed, is requested. Instead of being a prima facie case of obviousness based upon substantial record evidence, the rejection is based upon impermissible hindsight.

Nowhere does the Office Action set forth in what manner the Bump et al. system teaches or suggests a meter having two or more voltage supply paths for supplying different voltages to the gas flow detection circuit. Nor is there anything in the International Standard and JP '361 documents to supply the missing feature. International Standard is, just as the Examiner acknowledges, merely some recommendations in which induced surge noise is simulated. JP '361 generally discloses circuit protection from surge noises. They provide no teaching that would inform the Bump et al. patent so as to result in the subject matter of the rejected claims.

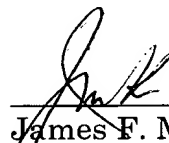
Accordingly, early and favorable action on the claims in this application is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #381AS/50350).

Respectfully submitted,

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James F. McKeown
Registration No. 25,625

CROWELL & MORING, LLP
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
CAM No.: 056203.50350US